

XX.—Notes on some Nematodes from East African Hosts.

By E. A. SPAUL, B.Sc., Birkbeck College, University of London.

THE following notes deal with part of a small collection of Nematodes from the alimentary canal of various reptiles, birds, and mammals in Tanganyika Territory, sent by Mr. A. Loveridge to the British Museum.

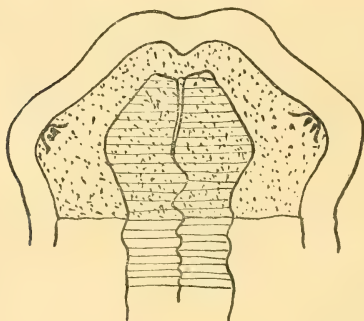
The material has been identified with previously described forms, except in one or two instances which are recorded here.

The work was carried out at the British Museum and at Birkbeck College, University of London, and my thanks are due to Dr. H. A. Baylis for help and for entrusting me with the material.

Strongyluris gigas, sp. n.

This remarkably large new species of *Strongyluris* from the lizard *Agama distanti*, Blgr., is described here in detail, and is apparently the largest member of the genus yet met with. Von Linstow (1897) and Gendre (1909) have described forms from *Agama* which bear strong resemblances

Fig. 1.



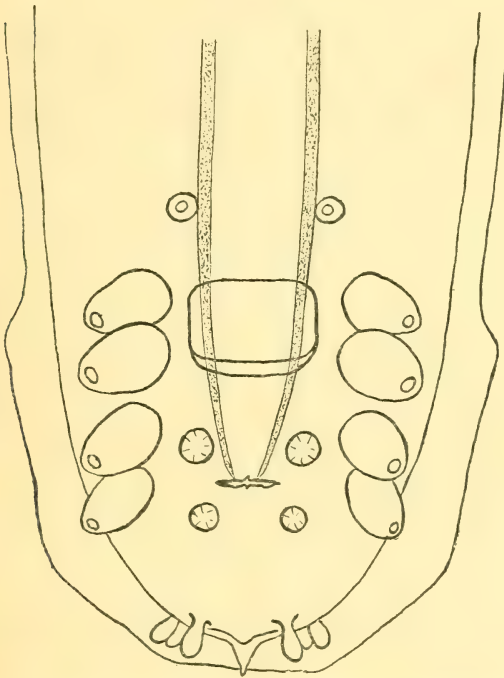
Dorsal lip showing papillæ.

to this one, but they are much smaller, and it was found on further detailed examination and comparison that other differences existed.

There are three lips, each bearing two papillæ and having flange-like marginal extensions of the cuticle (fig. 1). There

seems to be a marked tendency for the ventro-lateral lips to be slightly larger than the dorsal lip. The cuticle is finely striated. There is a pharynx, separated from the œsophagus by a constriction and a ventral kink in the lumen. The nerve-ring is situated at approximately the same distance behind the constriction as the latter is from the anterior end. At the posterior end the œsophagus enlarges into a bulb just

Fig. 2 A.

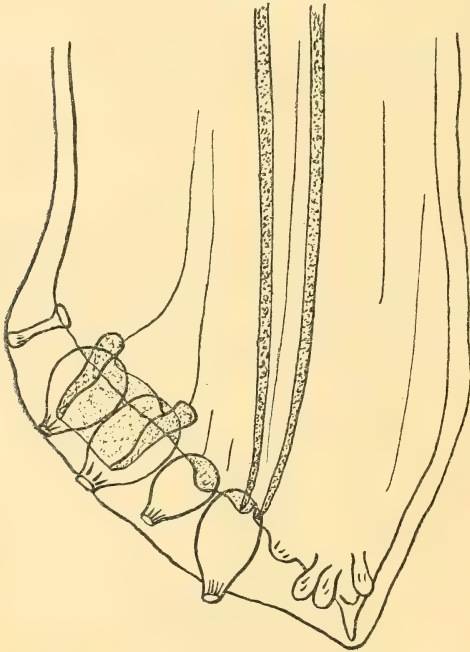


Ventral view of male tail, showing sucker, anus, and arrangement of papillæ.

behind the excretory pore. The lateral fields are very conspicuous, and consist, as usual, of a single row of large cells. The tail of the male is typical, with a preanal sucker having a chitinous ring, papillæ, and spicules of the usual type. There are six pairs of preanal and four pairs of postanal papillæ (figs. 2 A & 2 B). The most anterior pair is slender and stalked, not always well pronounced; the next is large,

conical, and flask-shaped, situated at the level of the anterior edge of the sucker; immediately behind is a similar though larger pair; the next pair varies in size between finger-like processes in the smaller and prominent flask-shaped masses similar to the preceding ones in the older and larger specimens. The same applies to the next pair, situated just behind these, but further from the middle line, and directed slightly outwards and posteriorly. The latter pair is level with the anus, which has a small pair of sessile papillæ in

Fig. 2B.

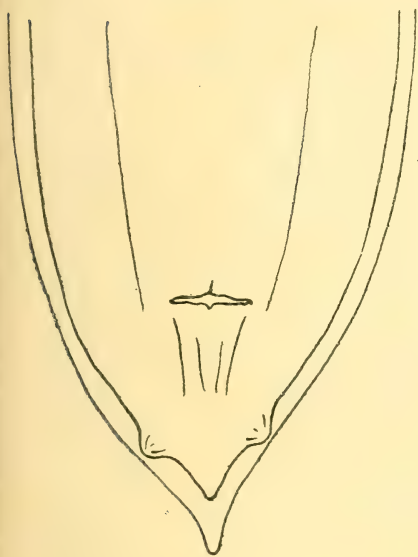


Side-view of male tail, showing relative sizes of papillæ.

front of it and a similar pair behind it. Posteriorly, on either side of the terminal spike, is a cluster of three papillæ which vary in shape, but they are usually small and finger-like, and are situated at different levels. At the base of the spike there is a small median ventral protuberance, similar, apparently, to the median papilla described by Gendre, but as it is difficult at times to locate and not constant in its occurrence it can hardly be described as a papilla. There is

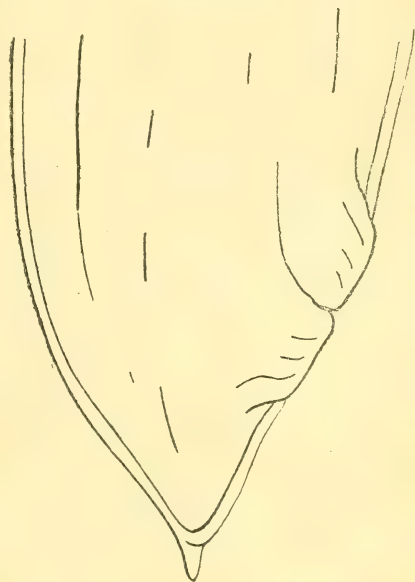
apparently no crown of papillæ behind the head. The female tail tapers regularly, the angle not being so acute as in *S. ornata* as described by v. Linstow, nor so obtuse as in the form described by Gendre. It has a papilla on either side close to the terminal spike (figs. 3 A & 3 B). As regards size, position of excretory pore, etc., the female is larger, but everything the sexes have in common exists in the same relative position and in the same proportion. The vulva opens in the posterior half of the body. The eggs are oval with smooth shells, but vary greatly in size.

Fig. 3 A.



Ventral view of female tail, showing anus and papillæ.

Fig. 3 B.



Side-view of female tail.

The measurements are tabulated on p. 222 with those of *S. ornata* as described by Gendre and by v. Linstow, and also with those of the genotype—*Strongyluris brevicaudata* (Müller) [all these forms occurring in species of *Agama*].

S. brevicaudata has three pairs of preanal papillæ and six pairs of postanal. The measurements of *S. gigas* are taken from a typical specimen, whilst the ratios are averages of all the specimens examined. Those of *S. ornata* are taken respectively from the descriptions of Gendre and v. Linstow,

	Length	Breadth	Diam. of head end.	" " tail end	Length of tail	" " pharynx	" " cesophagus	Ratio of length of cesophagus to total length	Nerve-ring from anterior end	Excretory pore from anterior end	Length of cesophageal bulb	Width	Spicules: width	length	Length of lips	Width	" " of cesophagus	Position of vulva—Ratio of distance from posterior end to total length	Distance of sucker from posterior end	Eggs: length	width		
<i>Strongylus gigas.</i>	♀.	35	1.5	.22	.5	4 (1/60)	.4	3.5	(9/10)-(10/1)	.65	3	.62	2.6	.45	.25	.04	1.1	.12	.06	.096	17 (10/21)	150 μ	90 μ
	♂.	32	1.2-1.5	.17	.6	25 (1/125)	.3	3	(10/1)-(12/1)	.62	2.6	.45	.25	.04	1.1	.12	.06	.085	..	4	..	..	
<i>S. [Heterakis] ornata (Gendre).</i>	♀.	18-17	.9-1	..	..	(1/61)-(1/67)	..	..	(5/1)-(5.3/1)	..	..	..	..	..	..	..	..	..	..	76 μ	44 μ	..	
	♂.	15-12	.76-.84	..	..	(1/90)-(1/93)	..	..	(4.7/1)-(5.6/1)	..	..	..	..	..	1.5	..	..	..	..	..	70 μ	47 μ	..
<i>S. [Heterakis] ornata (v. Linstow).</i>	♂.	12	.83	..	..	(1/100)	..	..	(6/1)	..	1.65	..	..	.035	1.06	..	..	..	..	..	..	..	..
	♀.	10.5	.55	.05	.28	2 (1/50)	.29	2	(5.25/1)	.45	1.65	.41	.24	..	..	..	..	..	..	..	3.5 (10/30)	68 μ	48 μ
<i>S. brevicaudata (Müller).</i>	♂.	9.6	.45	..	.28	1 (1/95)	.25	1.9	(5.1/1)	.5	1.5	.34	.22	.02	1.3	..	..	..	..	..	..	..	..
	♀.	185	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

These measurements are all in mm., except where otherwise stated.

whilst those of *S. brevicaudata* are taken from specimens in the British Museum from a West African lizard.

The reasons for regarding *Strongyluris gigas* as a distinct species can be summed up as follows :—

- (1) The great length and thickness compared with the other species could hardly be due to variation.
- (2) The male of *S. ornata* as described by Linstow has one more pair of caudal papillæ, whilst the median "papilla" in *S. gigas* is not nearly so distinct as in Gendré's form, although in other respects the papillæ agree with his description.
- (3) The ratio of the lengths of the tail and œsophagus to the total length of the worm is much lower in the case of *S. gigas* than in the other forms, and such a difference could not be accounted for by variation.
- (4) The size of the eggs is much greater than in the other two species.
- (5) The female tail is distinct in shape from that of other species, being neither so acute as in the *S. ornata* of v. Linstow nor so obtuse as in the *S. ornata* of Gendré.

Physaloptera affinis (Gedöelst, 1916).

An examination of examples of this species from *Psammophis subtaeniatus* shows that the four branches of the uterus originate dichotomously, as described for *Physaloptera abbreviata* and *P. pallaryi* by Seurat (1917), and not simultaneously as in *P. varani*.

Leidy describes a species, *Physaloptera abjecta*, from *Psammophis flagelliformis*, a snake found in the United States and Mexico. This host is in reality a *Zamenis*, and the worm is probably distinct from *P. affinis*, which occurs in *Psammophis* in Africa.

Contracæcum microcephalum (Rud., 1809).

Specimens referred to this species were taken from *Ardea purpurea*, *Ardeola ralloides*, and *Scopus umbretta bannermanni*. The last-mentioned appears to be a new host.

Ascaris sp.

Some Ascarids, not referable to either of the genera *Belascaris* and *Toxascaris* were taken from *Genetta* (? *stuhlmanni*),

but owing to the absence of a male it is not considered advisable to base a description on this material.

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- GENDRE, E. 1909. "Notes d'Helminthologie africaine" (Deuxième Note). Proc.-verb. Soc. Linn. Bordeaux, lxiii. pp. xxxiii.-xli.
 LINSTOW, O. VON. 1897. "Nemathelminthen Grösstentheils in Madagascar gesammelt." Arch. f. Naturg. lxiii. 1, pp. 27-34, pls. iv.-v.
 SEURAT, L. G. 1917. "Physaloptères des Reptiles du Nord-africain." C. R. Soc. Biol., Paris, lxxx. pp. 43-52.

XXI.—*On a new Species of Armadillidium.* By HAROLD G. JACKSON, M.Sc., Birkbeck College, University of London.

THE species of *Armadillidium* described and figured below is founded on a large amount of material sent to me by Mr. Edward Speyer, M.A. He collected it in the cucumber-houses of the Experimental and Research Station, Cheshunt, Herts, and I have great pleasure in associating his name with it. I am also indebted to him for most of the figures illustrating this paper.

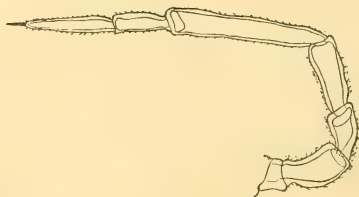
The holotype of the species is deposited in the British Museum, where the work for this note has been done, by the courtesy of Dr. W. T. Calman, F.R.S.

Armadillidium speyeri, sp. n.

Male specimen described.

Body oblong-oval, 11 mm. long by 5 mm. broad ;

Fig. 1.



Armadillidium speyeri, antenna.

moderately convex above. Surface smooth with very minute granulations. Front of head slightly curved ; very